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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,361	06/19/2001	Bernd Gombert	GOMBERT=4	9658

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BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER

EISEN, ALEXANDER

ART UNIT	PAPER NUMBER
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2674

13

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,361

Applicant(s)

GOMBERT ET AL.

Examiner

Alexander Eisen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18,27,28,30,31,33,34,36 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18,27,28,30,31,33,34,36 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Objections to claims 7, 29, 32, 35 and 38 have been withdrawn necessitated by amendment.
2. Claims 27, 33 and 36 are objected because of the following informalities: all claims recite "and the computer-controllable object moves as a whole or at least one part of the computer-controllable object moves with respect at least one other part". The latter apparently should be -- and the computer-controllable object moves as a whole or at least one part of the computer-controllable object moves with respect **to** at least one other part--.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.
4. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 recites "e.g." ("for example") in line 8, which renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being anticipated by Armstrong, US 5,589,828 in view of Nitta et al., ("Nitta"), US 5,757,360 (reference provided with applicant's IDS).

With respect to claim 1 Armstrong discloses a manually activated input device (column 2, lines 12-50) for controlling motions of a real or virtual multipart objects (column 4, lines 55-60) including a force/moment sensor (see FIGS. 1-6 and 11 for different types of sensors), which is used to detect three-dimensional translational and rotational movements (column 3, lines 7-16).

Although Armstrong disclose that the commanded individual linear displacements of the force/moment sensor can be assigned to a specific kinematic motion patterns of parts of real or virtual objects thereby permitting manipulation or animation of the objects, the reference does not disclose specifically that in addition to displacement, a velocity of the displacement can be used as additional weightable kinematic interlink assignment.

Nitta teaches an accelerometer-based input device for computer control on-screen animated characters presented by a computer-driven display, in which the movement, persona or style of a character is controlled through movement of the device in a predetermined pattern, which in turn results in recognizable pattern of accelerations that are detected that are detected by the computer to give the character specific motion on the screen (see FIGS. 7-8; col. 10, lines 30-67).

Nitta further teaches that the commanded displacement can be based on the speed of movement of the input device (see column 10, lines 30-35), i.e. the velocity is used as a kinematic interlink assignment.

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It would have been obvious to one of ordinary skill in the art at the time when the invention was made to use the technique proposed by Nitta with the input device of Armstrong, because it would provide the latter with a concrete implementation of translating the sensor signals into an object movements taught by Nitta.

As to claim 2, Nitta practically teaches that various patterns of acceleration (derivative of speed) are assigned to various character motions, so it would not be a burden to those of ordinary skills in the art that Armstrong-Nitta combination would result in at least twelve kinematic interlinking assignments, i.e. equal to at least six degrees of freedom exercised in both directions.

7. Claims 3-6 and 27-28, 30-31, 33-34 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong in view of Nitta and further in view of Walker, US 6,072,467.

Armstrong discloses a manually activated input device for controlling motions of a real or virtual multipart objects including a force/moment sensor, which is used to detect translational and rotational movements.

Nitta teaches an accelerometer-based input device for computer control on-screen animated characters presented by a computer-driven display, in which the movement, persona or style of a character is controlled through movement of the device in a predetermined pattern, which in turn results in recognizable pattern of accelerations that are detected that are detected by the computer to give the character specific motion on the screen.

None of the above teaches that the input device can also control such features as sounds (tone or music).

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With respect to claims 3-6 Walker teaches an input device, which can control an animated character on the computer-driven screen, whereas the input device not only used to control the character's motion but also to control the sounds in order to enhance the virtual reality by adding emotional content of the movement and provide the character with speech capability (see abstract; FIGS. 1, 4, 9-10; column 7, line 66 – column 8, line 17; column 12, lines 21-24).

It would have been obvious to one of ordinary skill in the art at the time when the invention was made to add sound control taught by Walker to the input device of Armstrong, motivated by the Walker's teaching that this would enhance the versatility of the control function and would allow to accommodate emotional aspects of the virtual reality (Walker; column 3, lines 22-34 and 59-65).

As to claims 27-28, 30-31, 33-34 and 36-37, Walker further teaches a method for controlling computer-controllable object (character 16 on the computer-driven display12), the character has a plurality of individually movable parts (head, body, arms and legs are shown), wherein the computer-controllable object simulates an animate being (a character or person) (see column 6, lines 22-53; column 8, lines 6-17).

8. Claims 7-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong in view of Nitta and further in view of Dietrich et al., ("Dietrich"), US 4,785,180 (reference provided with applicant's IDS).

Armstrong discloses a manually activated input device for controlling motions of a real or virtual multipart objects including a force/moment sensor, which is used to detect translational and rotational movements.

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Armstrong further discloses that many different types of sensors can be used for detecting the movement in all possible directions, linear and rotational (see examples in FIG. 11a-11h; column 7, lines 5-13; column 12, line 59 – column 14, line 15).

Nitta teaches an accelerometer-based input device for computer control on-screen animated characters presented by a computer-driven display, in which the movement, persona or style of a character is controlled through movement of the device in a predetermined pattern, which in turn results in recognizable pattern of accelerations that are detected that are detected by the computer to give the character specific motion on the screen.

None of the above teaches that an optoelectronic assembly can be use in the sensor, but optoelectronic displacement sensors are well known in the art.

Dietrich teaches an optoelectronic assembly, which is housed in a plastic sphere and capable of simultaneous input of six displacement components. The optoelectronic assembly (see FIG.1) includes at least six light emitting means (2-1 to 2-6), which are mounted equally angularly spaced, each including an inputting, fixedly arranged slotted aperture (3-1 to 3-6); position-sensing detectors (4-1 to 4-6), oriented by their detector axes perpendicular to corresponding the aperture slots, whereas the detectors and aperture slots are movable relative to each other.

It would have been obvious to one of ordinary skill in the art at the time when the invention was made that the optoelectronic assembly taught by Dietrich lends itself conveniently to be incorporated into the input device of Armstrong, because it provides exactly the 6 degrees of freedom input required by Armstrong, fits into a spherical handle of Armstrong, and can be readily, economically and compactly built and assembled (Dietrich; column 2, lines 3-7).

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It would be also readily recognized by those ordinary skilled in the art at the time of the invention, that applying the sensor assembly of Dietrich in the device of Armstrong will simply constitute an alternative choice for measuring the displacements, which won't bring about any unexpected result.

As to claims 9-10, Dietrich teaches an electronic controller, which maintains the sum of the currents flowing in the corresponding position-sensing detector to a value, which is the same for all of six pairs of light-emitting means and detectors (see column 4, lines 49-60).

As to claims 11-18, Dietrich further teaches a first cylindrical ring (3) and a second cylindrical ring 5, which accommodate fixedly slotted apertures and position-sensing detectors respectively.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Eisen whose telephone number is (703) 306-2988. The examiner can normally be reached on M-F (8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on (703) 305-4709.

Any response to this action should be **mailed to:**

Commissioner of Patents and Trademarks

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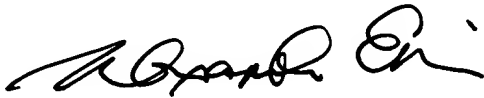
or **faxed to:**

(703) 872-9306 (for Technology Center 2600 only).

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Hand-delivered responses should be **brought to:** Crystal Park Two, 2121 Crystal Drive,
Arlington, Virginia, Sixth Floor Receptionist.

Any inquiry of a general nature or relating to the status of this application or proceeding
should be **directed to:** Technology Center 2600 Customer Service Office, whose telephone
number is (703) 306-0377.

A handwritten signature in black ink, appearing to read 'Alexander Eisen', with a stylized flourish at the end.

Alexander Eisen
April 19, 2004